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To: Pat Goddard, Director of Facilities, Town of Lexington
Paul Ash, Superintendent, Lexington Public Schools
Estabrook Advisory Committee

From: David MacIntosh

Date: October 6, 2010

RE: Air Samples Collected on September 27, 2010, Estabrook Elementary School

Results for the fifth and most recent round of air samples collected at Estabrook Elementary School on September 27, 2010 were received this afternoon and are summarized in this memorandum.

As shown in Table 1 on the next page, the concentration of PCBs in indoor air ranged from 76 to 213 nanograms per cubic meter (ng/m³) in rooms sampled on September 27, 2010. The concentrations in Round 5, when ceiling tiles were isolated from the classroom, were very similar to those observed in Round 4 prior to isolation of the ceiling tiles. The average concentration in Round 5 was 155 ng/m³. In comparison, the average concentration in the same rooms sampled during Round 4 was 151 ng/m³. The concentrations measured in air above the polyethylene sheeting and below the ceiling tiles are also shown in Table. 1. These values are similar to the level measured above the ceiling tiles of Room 39C during Round 3.

The results of this testing indicate that any emissions from ceiling tiles are not a substantive contributor to PCB levels in indoor air of these classrooms. These results emphasize the importance of continuing to manage interior PCB-containing caulk, including additional encapsulation that was completed last week.

Table 1 Air Sample Results for Total Polychlorinated Biphenyls, Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, July 22, 2010 – September 27, 2010*

Sample Location	Total PCBs (ng/m ³)				
	Round 1 ^a	Round 2 ^b	Round 3 ^c	Round 4 ^d	Round 5 ^e
Room 1	299	426	118 [†]	63 [†]	76 [†]
Room 1 Ceiling					265
Room 2	–	775	455	189	166
Room 2 Ceiling					287
Room 5	459	736	320	196	149
Room 5 Ceiling					571
Room 6	1,800	764	483	171	213
Room 6 Ceiling					526
Room 7A	–	–	5.19	–	–
Room 13	319	340	184	155 [†]	–
Room 21A	–	–	410	193	–
Room 24	680	601	226	173 [†]	–
Room 26	–	–	–	79	–
Room 31A	562	575	444	–	–
Room 39B	–	419	–	–	–
Room 39C	342	495	245	100	–
Library	–	469	196	–	–
Art Room	–	–	194	–	–
Teacher Work Room	–	–	138	–	–
Basement	–	–	227	–	–
Ceiling plenum (39C)	–	–	562	–	–
Outdoors	<3.79	<5.00	<4.20	<4.46	<4.32

PCB polychlorinated biphenyl
ng/m³ nanograms per cubic meter
– air sample not collected at that location

^a Round 1 samples collected July 22, 2010, during summer conditions.

^b Round 2 samples collected on August 25, 26 or 27, 2010, following removal of caulk around exterior window frames.

^c Round 3 samples collected on September 6, 2010, following initial optimization of outdoor air delivery and central exhaust, unless otherwise noted.

^d Round 4 samples collected on September 19, 2010 under optimization of outdoor air delivery and central exhaust, and indoor caulk encapsulation, unless otherwise noted.

^e Round 5 samples collected on September 27, 2010 under optimization of outdoor air delivery and central exhaust, indoor caulk encapsulation, and isolation of ceiling tiles.

[†] Samples collected under minimum outdoor air delivery.

[‡] Sample collected with supplemental air outdoor air (1200 CFM).

* PCB concentration analysis performed by Alpha Analytical Inc., using U.S. Environmental Protection Agency (EPA) Method 10A (GC/MS-SIM).